



# Experts give 'report-outs' on related issues

Subject-matter experts covered major issues of interest to the Signal Corps on the symposium's last day. COL Ben Fletcher, deputy director of the battle-command battle lab at Fort Gordon, Ga., gave an overview of Task Force XXI and Division XXI advanced warfighting experiments. LTC Charles Scott, chief of the officer branch, Personnel Command's Signal division, covered the officer and enlisted Signal personnel status. COL Scott Rodakowski, Fort Gordon's combat-developments director, outlined the functional-area assessment. Finally, COL Mike Lemons, Fort Gordon's computer-science school director; COL Sherwood Everette, Training and Doctrine Command systems manager for battlefield computers; and CPT Chuck Harris, future-readiness and captains-assignments officer at PERSCOM, outlined the latest information on automation and automation training.

## Warfighting experiments

Fletcher, whom Fort Gordon chief of staff COL Robert Zelazny called Fort Gordon's "point man and leader of Team Signal," gave a good overview on the task-force and division AWEs. Since a great part of the Task Force XXI information was covered in the Summer 1997 *Army Communicator* special edition on Force XXI, it won't be repeated here. This article will, however, cover lessons-learned from TF XXI, differences between TF AWE and DAWE, and an outline of DAWE.

"The road to the AWE was not a short course," Fletcher said. "There were many trainups and buildups, building the many automation systems put out there ... through

many different exercises ... culminating with the task-force AWE conducted at Fort Irwin (Calif.) in March 1997. And I will say 'culminating' because the AWE process is not a single-event process. It's a continuing string of exercises and equipment demonstrations to show we can implement technology and insert technology into the force, and have the force use it, understand it and execute their missions better by having it."

Signal initiatives from TF AWE included the tactical Internet ("the centerpiece"), network management, asynchronous-transfer mode, surrogate data radio, wireless modem and Global Broadcast Service/battlefield-awareness data distribution. TF AWE primarily tested situation awareness, Fletcher said, and was successful; for the first time, the commander could see "who was out in front of him and where his forces were." Work to do from TF AWE includes SDR and synergizing communications within the tactical-operations center.

TF AWE insights were:

- AWE process is a clear winner;
- SA is a powerful enabler/multiplier;
- Some organizational designs showed potential;
- Leaders began to set the conditions for digitizing the division.

TF AWE "winners and keepers" were:

- Applique/SA;
- Unmanned aerial vehicle;
- General support operations center;
- Analysis-control team;
- Brigade reconnaissance troop with Strikers/Colts;

- Infantry platoon dismounted organization;
- Mortars in maneuver brigade;
- Attack helicopter (Apache Longbow);
- Fire and forget, portable, antiarmor system, better known as Javelin; and
- Movement-tracking system.

TF AWE was a live simulation at the National Training Center, featuring TI and brigade-and-below operations. DAWE, however, was a constructive simulation – like in the battle-command training program – done at Fort Hood, Texas, and Fort Leavenworth, Kan. It featured the Army's tactical command-and-control system – not TI – plus division and corps operations. Since DAWE added corps-level command posts, it added a level of complexity not seen at TF AWE, Fletcher said.

DAWE Signal initiatives included network management, battlefield videoteleconferencing, ATM/high-capacity trunk radio (-), near-term digital radio, high-speed multiplexing, tactical personal-communications services and GBS/BADD.

The division's battlespace in DAWE was 280 by 220 kilometers – "almost-corps-sized," Fletcher said. "It will be a big challenge for the Signal community to operate over this greater space effectively," he said.

DAWE also showed a larger Signal role in TOCs for the first time. There will be more to do in this environment, according to Fletcher.

Emerging insights from DAWE are:

- Doctrine is sound – adapt it rather than start anew;
- Leader development will be

critical in Army XXI;

- Digital technologies significantly enhanced division capabilities;
- Operational tempo will increase, planning and decision-making is different, C2 on-the-move capability is essential;
- Good (not perfect) intelligence allows commanders to take prudent risks to achieve tactical goals;
- Nonlinear fighting with linear rear areas doesn't work very well;
- Digital/analog mix is complicated;
- Long-range fires and aviation shape the close fight on our terms rather than the enemy's;
- SA enables force protection;
- Collaborative-planning capability is powerful, giving real-time synchronization; and
- Every new capability brings new vulnerabilities – for example, over-reliance on UAV and joint surveillance target-attack radar system.

DAWE winners and keepers included HS-MUX, BVTC and GBS/BADD – all key for Signal people, Fletcher said. Others included the ACT enclave, battlespace integrated-concept-emulation program, movement-tracking system, digital topographic-support system and tactical engineering C2 system.

Overall, according to Fletcher, Signal core competencies have changed. We need to be “network smart” and know how to bring together and display things for the commander, to know things we don't know now. Also, lessons-learned showed the Army needs to simplify its networks and accelerate the Warfighter Information Network.

## Personnel matters

Scott gave an update on the Signal Corps, the Army's fifth largest branch, for both officer and enlisted matters.

First discussing Signal Corps officers, he said, “I'd like to challenge the leadership here to make sure (young) officers really know

how their career pattern should go, the things they need to be doing. Don't let them wander around, like some of us did for the first few years of our career, and not have any guidance. If you're mentoring ... or if you see yourself in that capacity, and you're not sure about something, please give us a call. I'm always there. ... If I'm not there physically, my voice mail is there and my e-mail is there.”

This is especially important because of Officer Personnel Management System XXI, which could make an officer's career “into a moving target,” Scott said.

The population breakdown of officers in the Signal Corps is:

lieutenants, 32 percent; non-branch-qualified captains, 23 percent; branch-qualified captains, 13 percent; majors, 18 percent; lieutenant colonels, 9 percent; and colonels, 5 percent. In the aggregate, Scott said female and minority officers make up the Signal Corps in about the same percentage as the rest of the Army.

Regarding officer promotions, Scott said his goal is to see Signal Corps officers selected at or above the Army's select rate. Percentages on captain and major selections are close to the Army's rate, Scott said, but the lieutenant colonels' percentage is a little below the Army's rate.

The Signal Corps is the “second biggest player” in the joint arena, next to military intelligence. The Signal Corps makes up about 9 percent of the Army's joint-duty-assignment list at this time, Scott said.

Before he turned to the enlisted status, Scott said the warrant-officer-

one officer evaluation report masking wasn't going to be done at this time, although OER masking will be done for second lieutenants.

Noncommissioned officers make up 44 percent of the Signal force, while skill-level one soldiers make up 56 percent. Signal enlisted structure includes three career-management fields, 18 military-occupation specialties, 12 additional skill identifiers and 20 skill-qualification identifiers. Of the CMFs, CMF 25 makes up 3.2 percent of the force; CMF 31, 79.8 percent; and CMF 74, 17 percent.

Results from recent promotion boards showed the Signal Corps' selection rate for sergeants first class

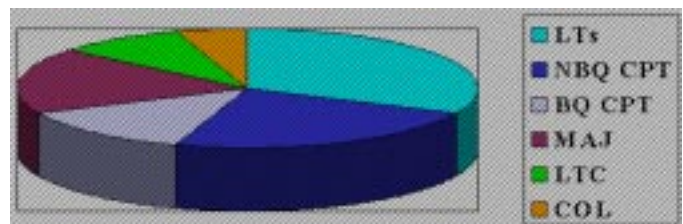


Figure 15. Signal Corps officer (Branch 25) population percentages.

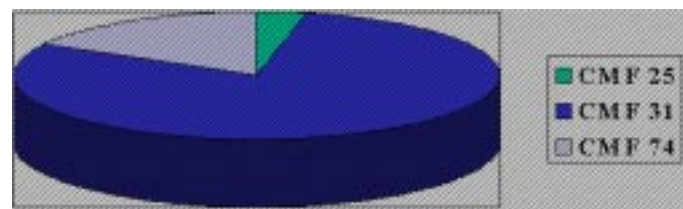


Figure 16. Signal Corps enlisted force by career-management field. CMF 31 is by far the largest percentage of Signal enlisted soldiers.

and master sergeants is higher than the Army's select-rate average, Scott said.

## FAA

Rodakowski said FAA's purpose is to give an overall assessment of the Signal Corps, explain the Signal Corps' modernization strategy and identify key Signal Corps issues. Nov. 21, 1997, was the original date for the Chief of Signal to brief the Army's vice chief of staff, but that was postponed until sometime in March, Rodakowski said.

In outlining FAA, he said, “It's a summary of what we see as key

challenges facing the Signal Corps. As we go through FAA, these are the continuing themes. ... We've talked about these growing warfighter information demands. Obviously, the network has to keep up with that, and that's a challenge, because right now those demands exceed the network's ability to keep up. And of course, the growing complexity of the network, and what does that mean to our Signal soldiers' technical-skills training. And oh, by the way, not only do they need more training, but we probably need more Signal soldiers to support all the digitization out there."

The Signal Corps also has another challenge in adapting commercial technology to a dynamic, mobile battlefield, Rodakowski said.

Training needs to focus on the new S-6 (brigade Signal section) organization. "It's the center of gravity for maneuver forces," he said. There will be 11 soldiers in the S-6 for the first digitized brigade.

Priority-one systems need to be fielded by fiscal year 2000, Rodakowski said: WIN ATM switch; high-capacity line-of-sight equipment; single-channel ground and airborne radio system's system-improvement program radio; enhanced position-location reporting system very-high-speed integrated circuit; Spitfire; secure, mobile, antijam, reliable, tactical terminal; GBS; and integrated-systems control.

MG Michael Ackerman, Chief of Signal, will brief the Army's vice chief of staff on several key issues in doctrine, training, leader development, organizations, materiel and soldiers. They are:

- Doctrine – reflect equipment being user-owned and -operated;
- Training – more training required to support digitization;
- Leadership development – there's a shortage of majors;
- Organizations – Signal Corps needs a personnel increase to support digitization;
- Material – includes acceleration in TI, the WIN terrestrial program (the modernization of

mobile-subscriber and triservice-tactical equipment) and spectrum availability, plus correcting the satellite-space-segment shortage; and

- Soldiers – there are shortages in key MOSS.

The Signal Corps, as a branch, is decreasing in a larger percentage of personnel numbers than the Army average, Rodakowski said.

Corrective actions the Signal Corps plans to take and its recommendations include:

- "Rules of allocation" and DTLOMS impacts within 90 days, as the Regiment is trying to get MOS 74B soldiers into the field faster;
- Validating rules of allocation in March; and
- Modernization planning includes going to one switch and fewer radio systems.

According to Rodakowski, the Army will listen to the Signal Corps' FAA issues because warfighters know that's what it will take to get what they need in situation awareness and digitization.

## Automation

Harris led off the automation update with a report on Functional Area 53 officers. "It's important for you all to know (FA53 information), mainly because the 53 arena has propensity under the Signal Corps," he said. "So the Signal Corps is really responsible for the systems automators in the Army. Also, what you'll see is that Signal Corps officers represent a significant portion of the population within the 53 arena. ... As we move toward Force XXI and the Army After Next, it's obvious that the role of the automator, as well as the Signaleer,

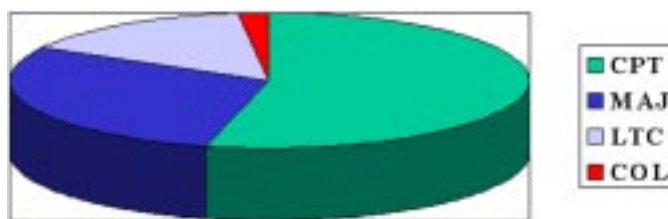


Figure 17. Percentage, by rank, of non-Army Acquisition Corps officers in Functional Area 53.

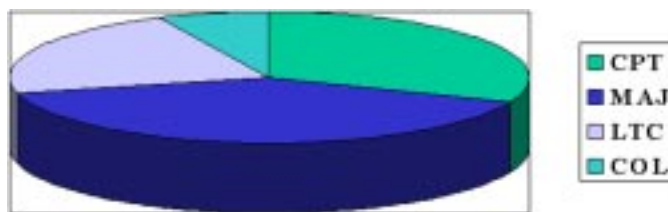


Figure 18. Percentage, by rank, of AAC officers in FA 53.

has become more and more important. (Among) things that came out within the AWE is that it's very important that not only the automator or that Signaleer be somewhat familiar with automation, but also that automator, that 53, needs to have a base knowledge of the Signal side as well."

Of non-Army Acquisition Corps FA53 officers, captains make up 54 percent of the Army's automators; majors, 29 percent; lieutenant colonels, 15 percent; and colonels, 2 percent. The AAC population is: captains, 31 percent; majors, 40 percent; lieutenant colonels, 22 percent; and colonels, 7 percent.

In promotions, the rate for single-track FA53s is "dismal," Harris said, but dual-track FA53s are promoted comparable to the Army's select rates.

In updating his audience on the Army's battle-command systems, Everette said, "As I tell the (FA) 53s, the (warrant-officer MOS) 251s and the (enlisted MOS) 74Bs, we've got a future for them in the Army. (That's) because we're building the Army battle-command systems, part of that global command-and-control system, and that's going to demand their skills and talents."

Everette also matched ABCS issues with DTLOMs issues, saying materiel was "driving the whole

process" but all DTLOMS concerns are key issues. They are:

- Doctrine — technology is driving change;
- Training — important since equipment is user-owned and -operated. Training on staff teams and network support for Signal staff is needed;
- Leader development — impacts all schools, especially the Signal Center. It's important because lieutenants and captains are required to devote 80 percent to 90 percent of their time in their units in automation. Basic and advanced NCO courses need looked at, since the communications-chief role is critical;
- Organizations — force structure trade-offs are tied to information dominance;
- Materiel — leading edge and continues to evolve, particularly software and networks. It's still complex; and
- Soldiers — increase in automation-trained soldiers mandated — officer, warrant officer and enlisted.

Since previous speakers had discussed the need for more automation training, Lemons updated his audience on what automation-training accomplishments had been made in 1997:

- All automation training consolidated in CSS, which took most of CSS' time and effort during the year;
- All programs of instruction updated;
- 74B, 251A critical task site selection;
- Router training added to 74B, warrant-officer basic and advanced courses, Signal officer basic and advanced courses, and FA53 training;
- GCCS ASI added;
- Seven new functional courses added;
- First Defense Message System suite installed;
- Security lab installed; and
- Security awareness video completed.

Many people ask Lemons what's happening to MOS 74C, he said:

- DMS doesn't eliminate 74C (MOS has 2,422 slots, down 75 from last year, losing 62 more slots next year);
- DMS will use 74B, not 74C;
- 800 74C slots being recoded to 74B (MOS has 2,300 slots, down 208 from last year, drops another 165 next year);
- Systems manager, top secret and communications-security-custodian functions remain;
- More automation training will be added to 74C course;
- 74C MOS will be retained until at least 2000; and
- The Army will closely monitor DMS/tactical DMS fielding.

Regarding DMS' training status, Lemons said more time had been approved for 74B, 74B ANCOC warrant-officer MOS 251A courses, plus five functional courses were added. The training-date start had been slipped from April 1 to Oct. 1, he said.

The Air Force will stop GCCS training in FY99, Lemons said, so the Army funded systems-administration equipment and instructor training in CSS for FY99. A four-week ASI functional course will begin in FY99, with the location of the regional training center for functional users yet to be determined.

Student load in automation courses will double in the coming year, Lemons said.

Functional courses added in FY98 include data communications and local-area networks; local-area network administration and management; network-management security; systems administrator security; network management; systems administration; webmaster; and new technology.

Future challenges in automation training, according to Lemons, include the Year 2000 problem; information operations; OPMS XXI; C2 protection; and improved information-technology training efficiency and effectiveness across the Army.

## Acronym Quick-scan

AAC — Army Acquisition Corps  
ABCS — Army battle-command systems  
ACT — analysis-control team  
ANCOC — advanced noncommissioned-officer course  
ASI — additional skill identifier  
ATM — asynchronous-transfer mode  
AWE — advanced warfighting experiment  
BADD — battlefield-area data distribution  
BVTC — battlefield videoteleconference(ing)  
C2 — command and control  
CMF — career-management field  
CSS — computer-science school  
DAWE — division advanced warfighting experiment  
DMS — Defense Message System  
DTLOMS — doctrine, training, leader development, organizations, materiel and soldiers  
FA — functional area  
FAA — functional-area assessment  
FY — fiscal year  
GBS — Global Broadcast Service  
GCCS — global command-and-control system  
HS-MUX — high-speed multiplexer  
MOS — military-occupation specialty  
OER — officer evaluation report  
OPMS — Officer Personnel Management System  
PERSCOM — Personnel Command  
SA — situation awareness  
SDR — surrogate data radio  
TF — task force  
TI — tactical Internet  
TOC — tactical-operations center  
UAV — unmanned aerial vehicle  
WIN — Warfighter Information Network  
WIN-T — Warfighter Information Network-Terrestrial